

## REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 37-41, 72-82 are pending in the application.

### Specification

The Office objected to the abstract of the disclosure for having more than 150 words. Appropriate corrections have been made to the abstract.

The Office was concerned with the use of trademarks YAHOO!®, MSN.COM™, and ASKJEEVES.COM™. Applicant has made the appropriate changes.

### Claim Objections

**Claims 37, 39, 72, and 73** stand objected to due to minor informalities. Claims 37, 39, 72, and 73 are amended to cure the informalities and Applicant does not intend to surrender any subject matter by these amendments.

### Claim Rejections under §112, first paragraph

**Claims 72-82** stand rejected under 35 U.S.C §112, first paragraph, for failing to comply with the written description requirement. Applicant respectfully traverses the rejection.

Claim 72 is supported at least at page 15, lines 11 -13, page 16, line 11 to page 17, line 22, page 18, lines 8-17 and page 18, line 19 to page 20, line 22.

Claim 73 is supported at least at page 13, lines 16-19, and page 15, lines 18 -19.

Claim 74 is supported at least at page 12, lines 20-23.

Claim 75 is supported at least at page 13, lines 10 -11.

Claim 76 is supported at least at page 14, lines 10-15 and lines 20-25.

Claim 77 is supported at least at page 15, lines 1- 15.

Claim 78 is supported at least at page 15, lines 11 -13, page 16, line 11 to page 17, line 22, page 18, lines 8-17 and page 18, line 19 to page 20, line 22.

Claim 79 is supported at least at page 12, lines 20-23.

Claim 80 is supported at least at page 13, lines 10 -11.

Claim 81 is supported at least at page 14, lines 10-15 and lines 20-25.

Claim 82 is supported at least at page 15, lines 1- 15.

Applicant respectfully requests the withdrawal of the above rejection with respect to claims 72-82.

**Claims 72** stands rejected under 35 U.S.C §112, first paragraph, for insufficient antecedent basis in the specification. Specifically, the Office states that ‘individual character strings’ in the phrase ‘segmenting the search query into individual character strings’ does not have any antecedent basis in the specification. Applicant submits that antecedent support is provided in the specification.

In Fig. 3, block 304 specifically discusses parsing a ‘query string’ using a natural language robust parser to produce parsed concepts and keywords.

Further, Fig. 4 shows an exemplary implementation of the natural language robust parser. On page 17, lines 17- 22 read as follows. ‘In English, words are separated by spaces and hence, word segmentation is easily accomplished. However, in other languages, segmentation is not a trivial task. With Chinese text,

for example, there is no separator between words. A sequence of characters may have many possible parses in the word-tokenization stage. Thus, effective information retrieval of Chinese first requires good word segmentation.<sup>7</sup>

The above excerpt shows that the query string received by the parser maybe analyzed to determine a suitable set of characters that when combined reflect user's intention. Hence the term 'character string' in the claim 72 has basis in the specification. Hence, Applicant requests that §112 rejection be withdrawn with respect to claim 72.

**Claim 78** stands rejected under 35 U.S.C §112, first paragraph. The claim is amended to clarify the subject matter being claimed, and hence Applicant requests that the §112 rejection be withdrawn.

#### **Claim Rejections under §101**

**Claims 72-82** stand rejected under 35 U.S.C § 101 because the invention is directed to non-statutory subject matter. Claims 72 and 78 are amended to clarify that statutory subject matter being sought. Applicant respectfully requests that the § 101 rejection be removed in view of the amendments.

#### **Claim Rejections under § 102**

**Claims 37-41, and 72-82** stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,584,464 to Warthen et al (hereinafter "Warthen"). Applicant respectfully traverses the rejection.

**Claim 37** (as amended) recites a method comprising:

receiving a query;

mapping the query from a query space to a question space to identify associated frequently asked questions, the mapping comprising:

*analyzing a log database to determine relevance of previously stored frequently asked questions to the query; and*

*ascertaining from the previously stored frequently asked questions the associated frequently asked questions based on the determined relevance;*

mapping the associated frequently asked questions from the question space to a template space to identify associated templates;

mapping the templates from the template space to an answer space to identify associated answers; and

returning the answers in response to the query.

Warthen provides for a method of returning answers to a query posed by a user. (*Warthen*, col 1- 2, summary). The information server receives a query from a user. (*Warthen*, col 1, summary). The query is tokenized into a list of words, and a parser generates a syntactic structure from a list of words. (*Warthen*, col 2, summary; col 5, lines 26-44). Specifically, the parser identifies a set of possible syntactic structures that could represent the questions being asked. (*Warthen*, col 5, lines 35-40). The syntactic structures are reformed into canonical forms by replacing the synonyms with a canonical term. (*Warthen*, col 5, lines 45- 47.) The normalized structure is matched against a semantic net to obtain a list of question. (*Warthen*, col 5, line 57 to col 6, line 4). However, Warthen does not

provide for a log database having previously stored queries, associated answers to previously stored queries and user's feedback to these answers. Further, Warthen does not provide for analyzing such a log database to derive relevance of the previously stored frequently asked questions to the user's query.

The Office states that claim 37 is anticipated by Warthen. Applicant respectfully disagrees. For the purpose of clarification, Applicant amends the claims to include *analyzing a log database to determine relevance of previously stored frequently asked questions to the query and ascertaining from the previously stored frequently asked questions the associated frequently asked questions based on the determined relevance.*

As discussed above, Warthen does not disclose the above elements. Since Warthen does not disclose the above elements, it cannot be said to anticipate the above claim. Therefore, Applicant respectfully requests that the §102(e) rejections be withdrawn.

**Dependent claims 38-41** depend from claim 37 and rejections with regard to these claims be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 37, are not disclosed by Warthen.

**Independent Claim 72** (as amended) recites a method of parsing a search query comprising:

*segmenting the search query into individual character strings;*  
producing a parse tree from at least one parsable character string of the search query; and

generating at least one keyword based at least on one non-parsable character string of the search query,

wherein the parse tree and the keyword are used to return answers to the search query.

In Warthen, a tokenizer converts an initial user query into a list of words and provides these words to the parser. (*Warthen*, col 5, lines 27-29). Warthen discloses that one structure for conversion is augmented transition network. (*Warthen*, col 5, lines 30-31). Another approach to tokenizing in Warthen is to scan the initial user query and group words into conceptual strings, removing plurals and suffixes. (*Warthen*, col 5, lines 31-33). In claim 2, Warthen further states that the user's query is a text string comprising a sequence of one or more tokens, wherein a token is one or more words that have meaning together. (*Warthen*, col 6, lines 48-52). While Warthen contemplates segmenting the user query into individual words, it does not disclose segmenting the query in terms of individual characters or letters.

The Office states 'segmenting the search query into individual character strings' is anticipated by Warthen in claim 2. (*Office Action dated 09/20/06*, page 5).

Applicant respectfully disagrees with the Office. As discussed above, Warthen proceeds on the assumption that the query contains discrete words such that the query may be segmented into a group of words. However, in some languages, such as Chinese, words are not separated by means of a space but are represented as a combination of characters. Further, variations in combinations of the same characters may lead to different words being generated. Therefore, the segmentation in such cases needs to be at the level of the individual characters to

ascertain the user's intention. Consequently, the parsing and keyword generation also need to be based on either the individual characters or combined characters. As Warthen does neither segment the search query into individual characters nor base parsing or keyword generation on individual or combined characters, Warthen does not disclose either '*segmenting the search query into individual character strings*' or '*producing a parse tree from at least one parsable character string of the search query and generating at least one keyword based at least on one non-parsable character string of the search query*'.

Since Warthen does not disclose the above elements, it cannot be said to anticipate the above claim. Therefore, Applicant respectfully requests that the §102(e) rejections be withdrawn.

**Dependent claims 73-77** depend from claim 72 and rejections with regard to these claims be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 72, are not disclosed by Warthen.

**Independent claim 78** (as amended) recites a parser for a search engine, comprising:

a segmentation module that segments a search query into one or more individual character strings,;

a natural language parser module that produces a parse tree from one or more parsable character strings of the search query; and

a keyword module to identify one or more keywords in the search query and to output the keyword,

wherein the parse tree and the one or more keywords are used to return answers to the search query.

As discussed above, Warthen does not disclose either segmenting the search query into individual character strings or producing a parse tree from at least one parsable character string of the search query and generating at least one keyword based at least on one non-parsable character string of the search query. Hence, Warthen does not disclose '*segmentation module that segments a search query into one or more individual character strings*'. Neither does Warthen disclose '*a natural language parser module that produces a parse tree from one or more parsable character strings of the search query and a keyword module to identify one or more keywords in the search query and to output the keyword*'.

Applicant therefore respectfully requests that the §102(e) rejections be withdrawn with respect to the above claim.

**Dependent claims 79-82** depend from claim 78 and rejections with regard to these claims be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 78, are not disclosed by Warthen.

### **Conclusion**

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability,

Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

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